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2 Integrity Ingredients Corporation

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# UNLOCKING COFFEE'S HEALTH POTENTIAL







This company meets the highest standards of social and environmental impact





### OUR STRATEGY



### **Vision**

Change how the world sees coffee; from a caffeinated drink to a sustainable resource to phase out unsustainable ingredients from the world's everyday products.

### **Mission**

Unlock coffee's health and technological potential.

### How we do it

Being creative and innovative while using the latest and most sustainable technologies to develop cutting edge solutions that satisfy market pains and needs.

### **Impact**

### Why is this important?

- Build and pioneer the manufacturing of the future key to world resilience
- Opportunity to avert 62 million KG of CO-eq emissions equivalent to 40 million trips from Copenhagen to New York City.
- Develop groundbreaking and disruptive products with the potential to improve the life of billions around the world.



### **Origins**

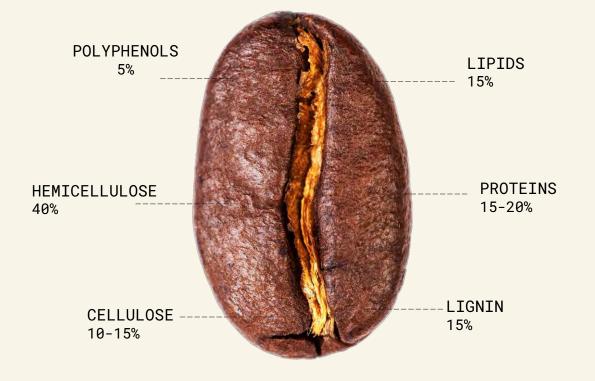
Founded in Denmark by three Colombian entrepreneurs: Camilo Fernandez, Alejandro Franco, and Juan Medina.

- Colombian roots: coffee as a "super ingredient" for healing.
- London epiphany: only 1% of coffee used, unfair farmer pay, untapped health benefits.
- Eco-impact: coffee waste fuels global warming.
- Mission ignited: unlock coffee's potential for a circular, sustainable world.





### The Magical Bean



### Why coffee?

### The most consumed beverage on Earth

- Most consumed drink: 10BN kg in '21, 7% CAGR '23-'25.
- Cold brew & RTD trends fuel our raw material source.

#### **Proven "super ingredient"**

• Health powerhouse: 100+ studies on benefits like diabetes, Alzheimer's, skin health.

#### **Important for climate & society**

- 1% of coffee utilised when making a cup of coffee
- 20.6 kg CO2-eq/kg produced
- 125M livelihoods depend on coffee







# The Shift to Natural & Bioactive Ingredients: A Market Imperative

Rising raw material costs

Opportunity for balanced solutions bridging the gap between performance, quality, costs and sustainability





Performance & Cost gap Naturals vs. Petrochemicals/Synthetics



Industry commitment to 100% natural to reduce Scope 3 emissions

# Natural doesn't [necessarily] mean sustainable

# Virgin vegetable oils and ingredients...

- Most emissions come from agriculture, mostly due to pesticides
- Deforestation increasing
- Relying on new crops is not sustainable
- Almost 40% of food (agricultural products) is thrown away worldwide yearly



# Relying on new crops = heavy transport emissions KAFFE BUENO









### **OUR SOLUTION**



### Upcycling is the solution

Cultivation accounts for around 80% of CO2 emissions from vegetable oils and ingredients in general.

If we upcycled only a third what is consumed in Europe or US (1billion kg (FDA, 2022) of the coffee being produced in the world we could:

### Replacing unsustainable ingredients

- Palm oil / derivatives
  - 150M kg (1.60-3 per kg CO2-eq) kg of palm oil and derivatives
- Corn glucose
  - 470M kg (1kg per C02eq, glucose syrup) of sugars, oligosaccharides, and derived polymers
- Petrochemicals & Synthetics
  - 200M kg of Caramel Colours and its derivatives
  - 140M of phenols and their derivatives
  - Hair dye ingredients
  - Iron oxides
  - Caffeine



### Aversions by upcycling coffee

11.2 Bn Tonnes Coffee (30% in EU)
5,6 CO2eq \* KG
= 62 M KG CO2-eq averted if all coffee worldwide were upcycled.

Equivalent to 153 billion miles driven by an AVG vehicle.

=

40 million trips from Copenhagen to New York!!, epa.gov.

,

Equivalent to emissions AVOIDED by 17k wind turbines

The whole of Denmark has 6k wind turbines.



### Our solution: upcycle coffee grounds



### **How it works**

- Source from trusted industrial partners.
- Molecular breakdown via green tech.
- Ingredients for WellCare market.
- Science-driven, market-focused solutions.

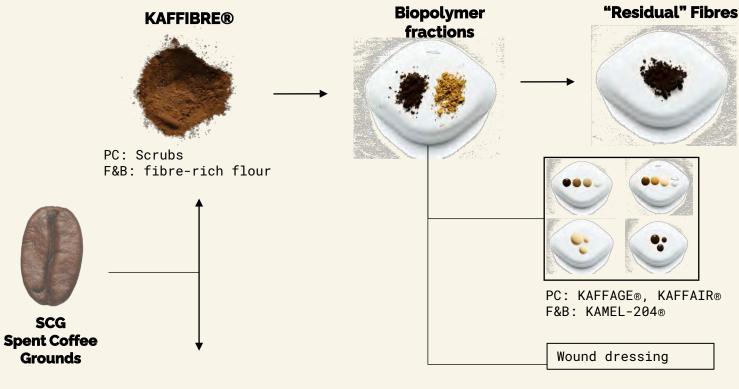
#### **Market traction**

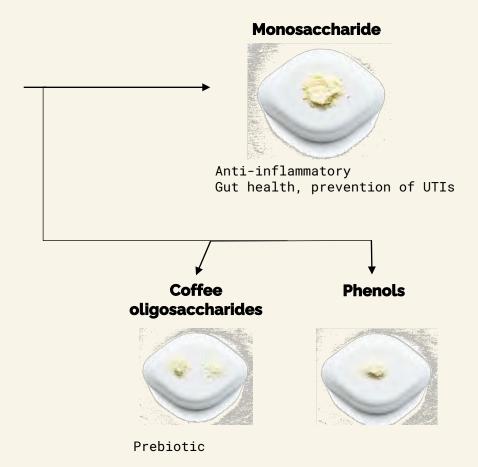
- 2020: KAFFOIL & KAFFIBRE in Personal Care & Nutrition.
- 2023: Hair Care, Sun Protection, Anti-Ageing.
- More in '24+.

#### IP

- Commercial patents.
- 2 pending: 1) Cosmetics biopolymers 2) Medical nanoparticles.

### Coffee by-products broken down Into Ingredients





#### **KAFFOIL®** grades



Active carrier oils Flavour / Emulsifiers

#### **SURFACTANTS & EMULSIFIERS**



Bio-based surfactants & emulsifiers for personal care & food & beverage

# The Bueno way: decentralised upcycling



### Scale-up journey

- Step 1: Copenhagen R&D Lab DONE
- Step 2: 1st Pilot Biorefinery in Denmark (500T) ONGOING
- Step 3: Demo Plant in DE (40K tons) by 2027 NEXT

#### Raw material

- Industrial by-products
- Extend existing lifecycle
- Consistent quality

### **Applications**

 Replace petrochemicals and unsustainable ingredients with local, upcycled ingredients

### Our business areas

Kaffe Bueno manufactures active and functional ingredients for these industries:















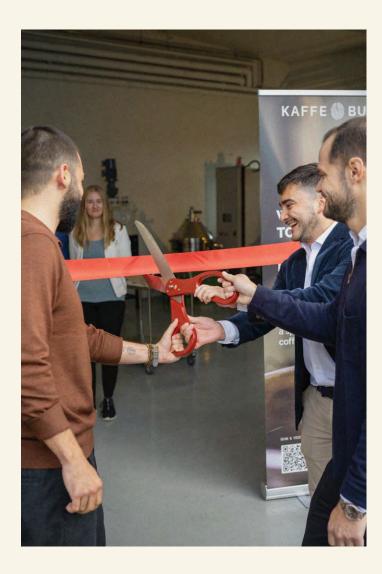
- Founded Kaffe Bueno

- Supply partnership with Paulig
- L'OREAL accelerator
- Launched first upcycled ingredients in personal care industry

- NIVEA in 3 countries with KAFFOIL®
- €2.5 M grant by European Innovation Council
- KAFFOIL® + KAFFIBRE® in 20+ brands across 20+ countries
- Developed all downstream processes for scale up

- Closed €6.2 Million
   Investment from
   Borregaard and European
   Investment Bank
- New efficacy data
- Launching in Animal Health and Agriculture

### World's 1st Coffee Biorefinery, in Denmark



Inaugurated 29th September 2023





### Awards & media coverage

### **Awards**









Global Winner of World
Finance Award in
Biotechnology 2024
GEM Entrepre
The Year 2021
founders of

GEM Entrepreneurs of The Year 2021 – to the founders of Kaffe Bueno 360 Degrees Prize
Startup of The Year, 2018.
by Danish Chamber of
Commerce

Runner Up as Most Innovative Industrial Biotech SME in Europe 2018







Winner, People's Choice Awards 2018



InnovationKonkurrence (Biomass Innovation Competition): Winner 2017

#### **Press**











































### Great market traction with our first 2 products

Our portfolio is present in 40 markets today









































15+ brands / manufacturers using Kaffe Bueno ingredients









































Examples of 9 finished products in the market w/ Kaffe Bueno ingredients



















COMMERCIAL **PARTNERS** 

















### **The Bueno Team**





**ALEJANDRO FRANCO** 

CO-FOUNDER | CCO



**ADNAN AKCAY** CTO / HEAD OF R&D



CO-FOUNDER | CFO



**SILVIA KOLLEROVA BUSINESS DEVELOPMENT** 



**NOOMI MIKKELSEN** MARKETING & BRANDING



**KERI AGGENBACH** NPD & LAB MANAGER



**PANAGIOTIS MANASIAN** 

SR. PROCESS ENGINEER



PALOMA ROZENE

**R&D PROCESS ENGINEER** 



**SERGIO VINAGRE** 

JR. PROCESS ENGINEER



**MICAELA FAUSTINI** 

QC ANALYST



**VINCENZO MASTROMARTINO** 

R&D CHEMIST



**IGNACIO SANCHEZ** JR. PROCESS ENGINEER

**MIE PEDERSEN** JR. PROCESS ENGINEER

### **Board & advisors**



MARCEL LUBBEN

#### CHAIRMAN OF THE BOARD OF DIRECTORS

- Investor, board member and Senior Advisor to startup and growth companies
- 25 years+ experience Life Science & material sciences with DSM, Avantium and DMC



**MARTIN LERSCH** 

#### MEMBER OF THE BOARD

- CTO Business Development and Biovanillin at Borregaard
- 20+ years of combined experience with RD&I
- 18 years with Borregaard
- PhD organic chemistry



**MARIKA KING** 

#### MEMBER OF THE BOARD

- Head of PINC, VC arm of Paulig Group
- 25+ years strategy consultancy & scale-up
- Ex-McKinsey



**STEN ESTRUP** 

#### **BUSINESS ANGEL OF KAFFE BUENO**

- Currently President Asia and ExCom of AAK and Chair of Biomega Group
- Former CEO of Biomega Group and EVP at Chr. Hansen
- 25+ years in the ingredients industry



**KARL LINTNER** 

#### ADVISOR TO KAFFE BUENO

- Author on > 30 published papers in biochemistry
- Former Marketing Manager, Henkel
- Former CEO Sederma world-leading active ingredient supplier for the beauty industry.



**WOUTER CLAERHOUT** 

#### ADVISOR TO KAFFE BUENO

- Former head of global marketing Human Health & Nutrition at Royal DSM. 20+ years in innovation, marketing and sales.
- Current CMO of nutraceutical company, generating € millions



**SYLVAIN MAUR** 

#### **ADVISOR TO KAFFE BUENO**

- 20+ years commercialising actives in the personal care industry.
- Generated hundreds of € millions for multinationals and SMEs in EU and USA.



**KELLY DOBOS** 

#### **ADVISOR TO KAFFE BUENO**

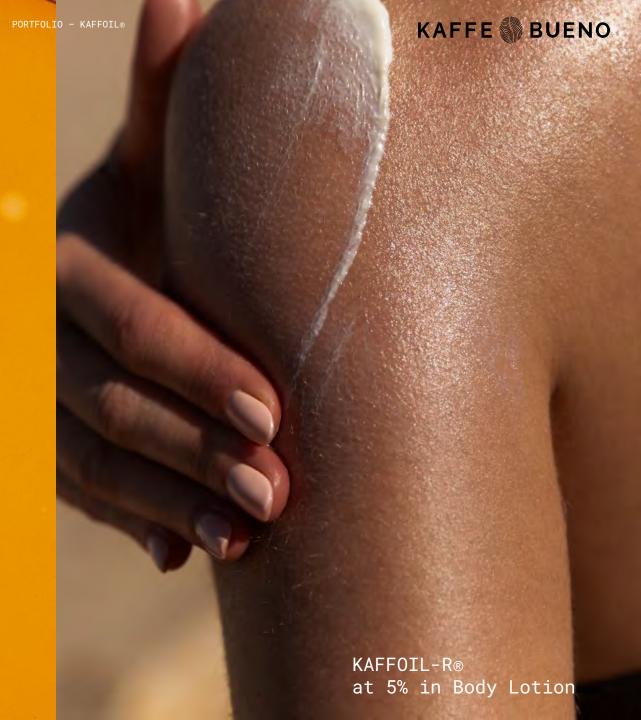
- 20+ years experience developing cosmetics for global players.
- Inventor of 4 patents and author of various technical and educational scientific publications.
- Part of American Chemical Society's expert panel.



[KAFF0IL®]
Personal care portfolio

Upcycled Active Emollient

a.k.a The New Argan Oil



### **KAFFOIL®**

### Personal Care Portfolio

### **Description**

KAFFOIL® is the market's first upcycled coffee-based lipophilic extract, created through an eco-friendly process that preserves a full spectrum of bioactive molecules.

It serves as a potent active and carrier oil in personal care applications.

Available in two forms—KAFFOIL, a dark, aromatic oil, and KAFFOIL-R®, a lighter, semi-refined alternative to Argan oil—both versions offer quick skin absorption and excellent spread ability.

Ideal for sustainable, high-performance skincare and hair care.

INCI: Coffea arabica seed oil



### [KAFFOIL®]

Active ingredient & emollient

Fragrant coffee aroma
Dark colour and viscous









Active ingredient & emollient

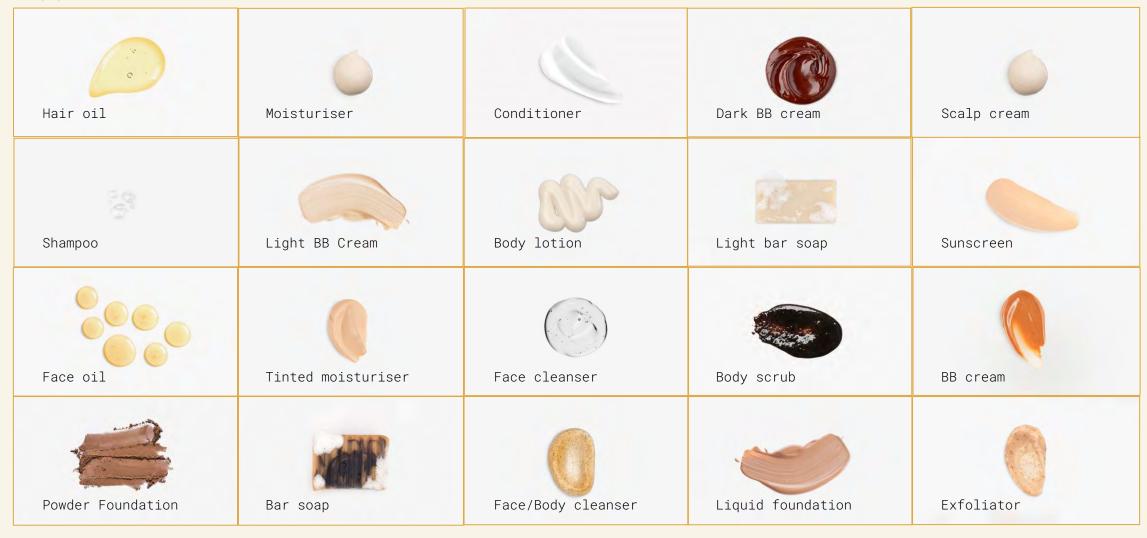
Mild coffee notes Translucent golden colour, lighter texture







### [Applications - KAFFOIL®]



### **KAFFOIL® - Efficacy**

### Personal Care Portfolio

#### **Claims:**

- Antioxidant
- Improves skin barrier supporting wound healing
- Repairs chemically damaged hair
- Repairs split ends
- Prevents hair breakage and split ends

#### **Modes of action:**

- Antioxidant by ROS scavenging
- Nrf2 pathway activation
- Acceleration of keratinocytes migration

#### Dosage:

• Skin: 0.5% - 100%

• **Hair:** 2 - 10%

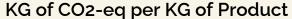
Extended data in commercial brochure

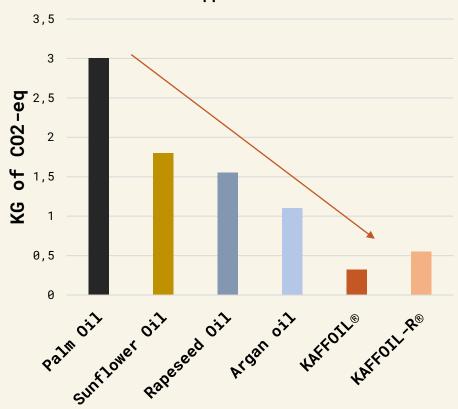




### **KAFFOIL® - Sustainability**

### Personal Care Portfolio





Oil Type	KAFFOIL® is more sustainable by	KAFFOIL-R® is more sustainable by
Palm Oil	9.4x	5.5x
Sunflower Oil	5.6x	3.3x
Rapeseed Oil	4.8x	2.8x
Argan Oil	3.4x	2.0x



### **KAFFIBRE®**

### Personal Care Portfolio

#### **Description**

KAFFIBRE™ is an upcycled natural exfoliating ingredient, which can replace plastic microbeads, as well as being a costeffective alternative to other natural exfoliants, like Defatted Rosehip Fibres, Quartz, Fruit Kernels and Almonds.

Unlike normal coffee grounds, whose particles have sharp edges and their size is 300-700 $\mu$ m, the particles of KAFFIBRE<sup>TM</sup> are round and homogenised to 150 $\mu$ m.

INCI: Coffea arabica seed powder



[KAFFIBRE®]

Upcycled coffee exfoliant

Round-sphered particles Homogenised particle size: 150 µm







# [Applications - KAFFIBRE®]

Hair oil	Moisturiser	Conditioner	Dark BB cream	Scalp cream
Shampoo	Light BB Cream	Body lotion	Light bar soap	Sunscreen
Face oil	Tinted moisturiser	Face cleanser	Body scrub	BB cream
Powder Foundation	Bar soap	Face/Body cleanser	Liquid foundation	Exfoliator

[KAFFAGE®]
Personal care portfolio

**Upcycled Multifunctional Active Biopolymer** 



# **KAFFAGE®**

## Personal Care Portfolio

#### **Description**

KAFFAGE®, is an innovative amphiphilic biopolymer 100% upcycled from defatted coffee.

Its unique composition, enriched with polyphenolic groups, provides unparalleled multi-functionality and exceptional performance.

Thanks to its potent anti-glycation properties and antioxidant activity, it is a pro-aging powerhouse.

Its natural hues makes it easy to mimic skin tones and develop inclusive formulations, reducing the reliance on conventional colour compounds like iron oxides, while boosting SPF.

#### INCI:

KAFFAGE®: coffea arabica seed extract

KAFFAGE-D®: glycerine (and) coffea arabica seed extract

KAFFAGE-B®: coffea arabica seed extract

KAFFAGE-BD®: glycerine (and) coffea arabica seed extract



# **KAFFAGE®**

## Personal Care Portfolio





Multifunctional active biopolymer

Powder form. Dark brown Amphiphilic. Best in oil







[KAFFAGE-D®]

Multifunctional active biopolymer

Dispersed in glycerin. Dark brown Amphiphilic. Best in water.







[KAFFAGE-B®]

Multifunctional active biopolymer

Powder form. Bronze yellow Amphiphilic. Best in oil







[KAFFAGE-BD®]

Multifunctional active biopolymer

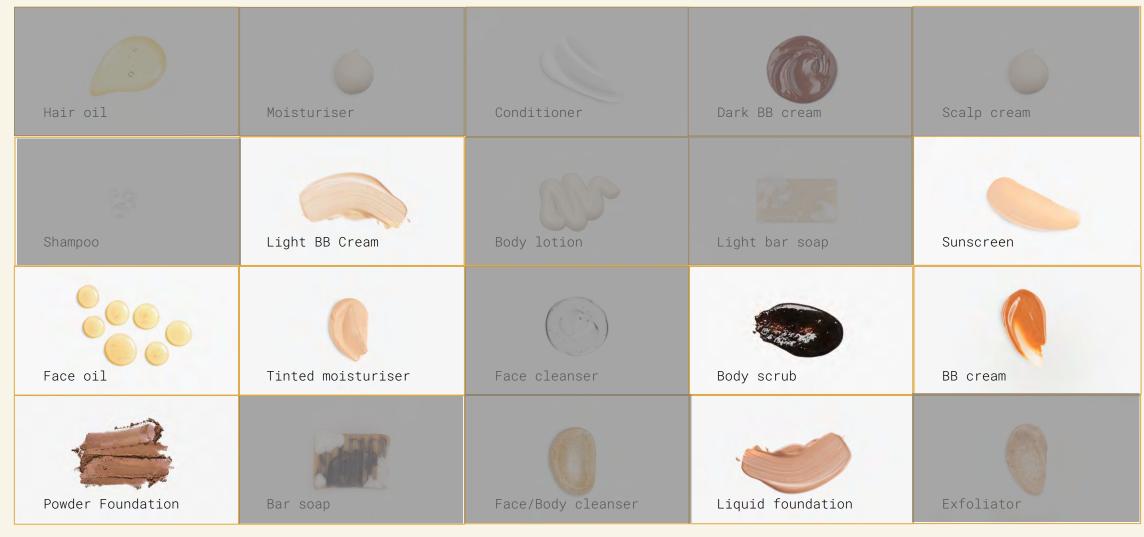
Dispersed in glycerin. Caramel colour. Amphiphilic. Best in water.







# [Applications - KAFFAGE®]



# **KAFFAGE®** - Efficacy

## Personal Care Portfolio

#### Claims:

- Prevents UV-induced Advanced Glycation End-Products (AGEs)
- Anti-Ageing
- Increases skin firmness and elasticity
- Provides daily protection

#### **Modes of action:**

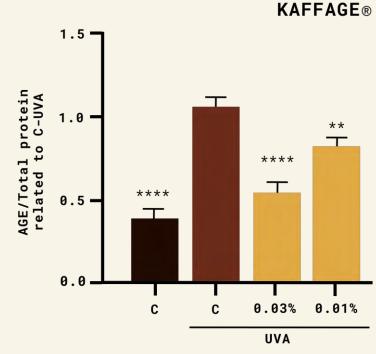
 KAFFAGE™ absorbs UV radiation and prevents sugar-protein reactions

**Dosage:** 1 - 6%

Extended data in commercial brochure

#### In vitro

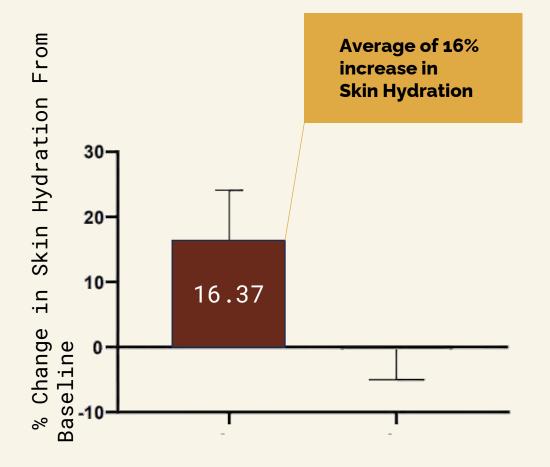






# In vivo – BB Cream with 3% KAFFAGE-BD® Measurement of Skin Hydration by Corneometer

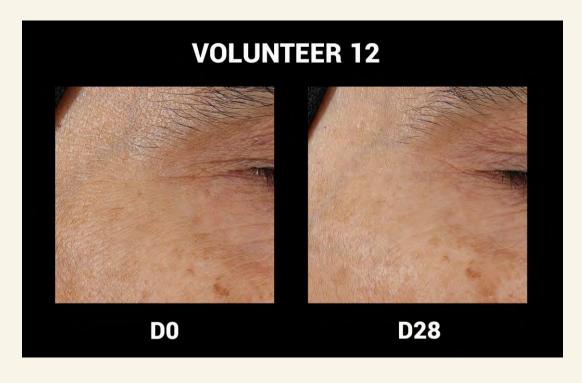




D28-D0 with KAFFAGE-BD

D28-D0 without KAFFAGE-BD

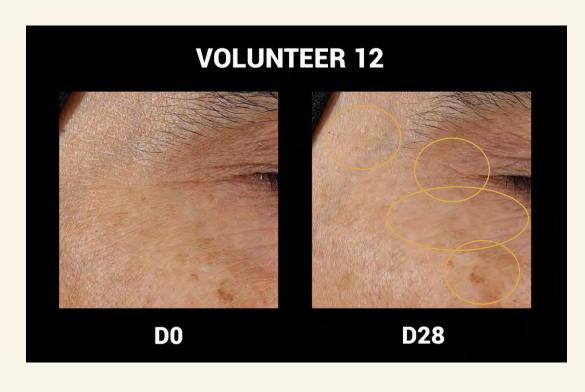
# VISIA-CR Imaging – Improvement in Appearance of Wrinkles in Ocular Region







# VISIA-CR Imaging – Improvement in Appearance of Wrinkles in Ocular Region



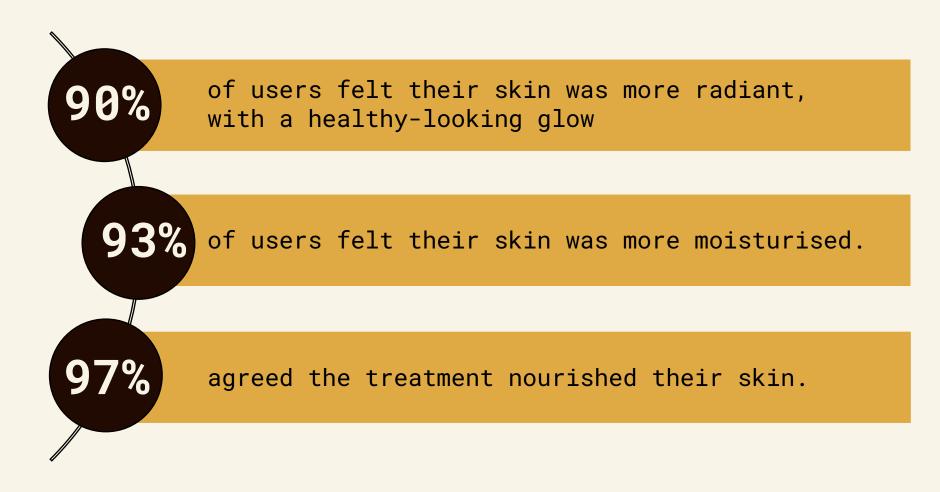


After 28 days of daily product application, there is:

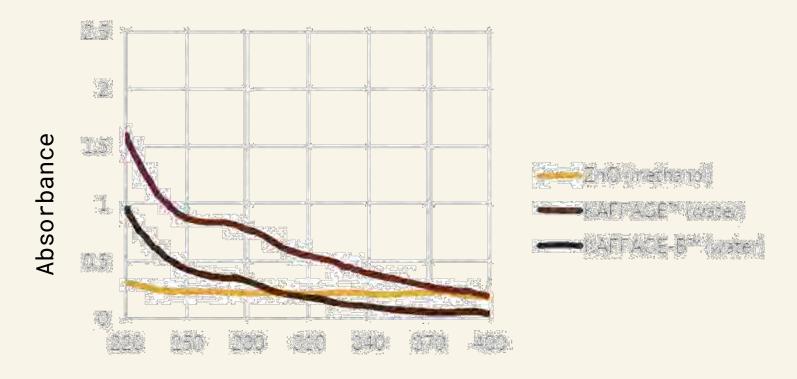
- Improvement in fine lines
- Improved hydration of the skin
- Improved appearance of hyperpigmentation



# Post Use Consumer Satisfaction Survey BB Cream With KAFFAGE-BD®



# **Absorbance in the UV region**



Absorption in the UV-region at 100  $\mu g/mL$  for KAFFAGE®, KAFFAGE-B® and ZnO.







# KAFFAIR® Personal Care Portfolio

# **Description**

#### INCI:

KAFFAIR®: coffea arabica seed extract

KAFFAIR-D®: glycerine (and) coffea arabica seed extract

KAFFAIR-B®: coffea arabica seed extract

KAFFAIR-BD®: glycerine (and) coffea arabica seed extract

KAFFAIR® is an innovative active ingredient upcycled from coffee, set to revolutionise scalp care and hair care with its scientific prowess.

It upregulates vital human growth factors (IGF1, VEGF, FGF7) to fortify cuticles and follicles, and helps to defend against hair loss\*

Thanks to its potent metal chelating properties, KAFFAIR® excels in purifying hair fibres and in removing environmental pollutants.

Although physically identical to KAFFAGE®, KAFFAIR® is a lower molecular weight biopolymer.

\*in vitro available. In vivo coming soon.

# **KAFFAIR®**

## Personal Care Portfolio





Multifunctional active biopolymer

Powder form. Dark brown Amphiphilic. Best in oil







[KAFFAIR-D®]

Multifunctional active biopolymer

Dispersed in glycerin. Dark brown Amphiphilic. Best in water.







[KAFFAIR-B®]

Multifunctional active biopolymer

Powder form. Bronze yellow Amphiphilic. Best in oil







[KAFFAIR-BD®]

Multifunctional active biopolymer

Dispersed in glycerin. Caramel colour. Amphiphilic. Best in water.





# [Applications - KAFFAIR®]



# **KAFFAIR®** - Efficacy

## Personal Care Portfolio

#### Claims:

- Helps improve and maintain scalp health
- Strengthens follicles and cuticles

#### **Modes of action:**

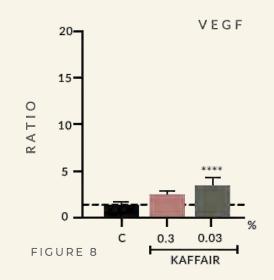
- Induces expression of growth factor genes VEGF, IGF1, FGF7\*
- VEGF (Vascular Endothelial Growth Factor): Enhances scalp blood circulation, ensuring improved nutrient delivery to hair follicles.
- **IGF1 (Insulin-like Growth Factor 1):** Promotes healthy hair follicle function, supporting robust hair growth.
- **FGF7 (Fibroblast Growth Factor 7):** Strengthens hair shaft and quality for lustrous, resilient hair.

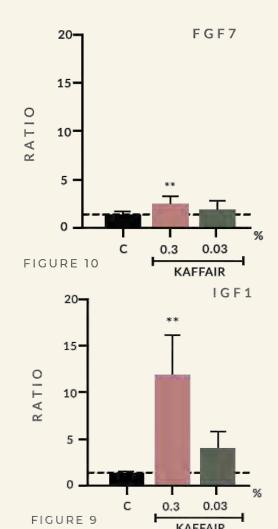
\*In vitro available In vivo coming soon

**Dosage:** 1 - 6%

Extended data in commercial brochure

### In vitro







# **KLEANSTANT®**

## Personal Care Portfolio

#### **Description**

KLEANSTANT™ is a natural anionic surfactant derived from coffee by-products, containing potassium salts of palmitic and linoleic acids, along with polyphenols, tocopherols, and diterpene esters. It has cleansing, emulsifying, foaming, and antioxidative properties, and a moisturizing effect.

It's palm-, sulphate- and petroleum-free, naturally biodegradable, and enabling the reduction of the carbon footprint.

INCI: Potassium Coffeeate (Registered 2023)



#### [KLEANSTANT®]

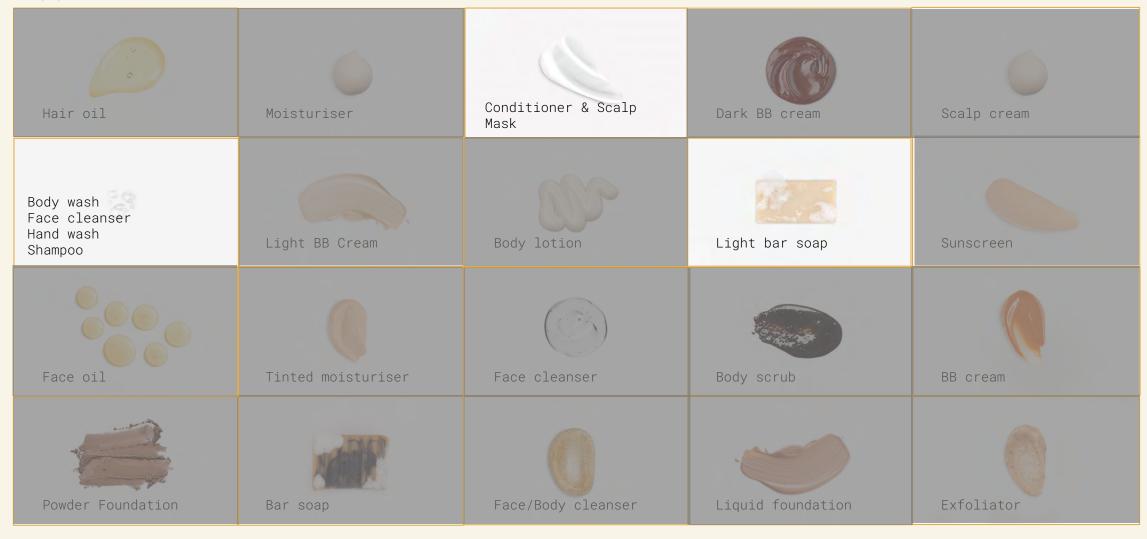
Bio-based mild anionic surfactant

Upcycled from coffee





## [Applications - KLEANSTANT®]





# **KLEANSTANT® - Key values**

## Personal Care Portfolio

Specifications	Value	
Active ingredient concentration	25%	
Surface tension at 1% concentration	35-40 mN/m	
Viscosity	150-250 mm^2/s	
Foaming test (Ross-Miles)	>50 mm	
Turbidity point	10°C	
pH, direct	11.5 - 12.0	



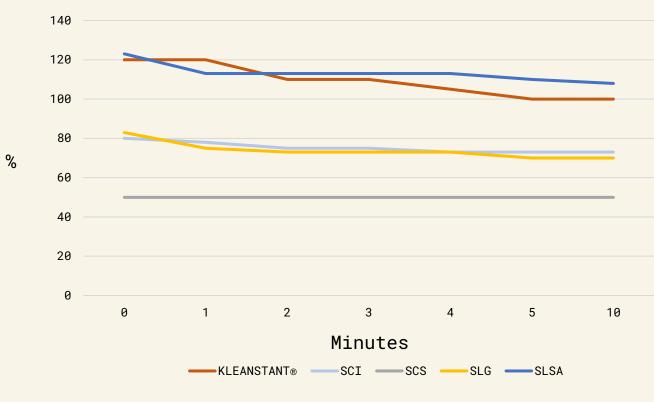
# KLEANSTANT® - Foam ability comparison

## Personal Care Portfolio

### **KLEANSTANT®** foam ability:

- Comparable to SLSA
- 43% higher than SCI
- 68% higher than SCS
- 31% higher than SLG

#### Foam ability (%)



SCI = Sodium cocoyl isethionate

SCS = Sodium coco sulfate

SLG = Sodium lauryl glutamate

SLSA = Sodium lauryl sulfoacetate





UNLOCKING COFFEE'S HEALTH POTENTIAL

# **THANK YOU!**

## Certified



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in @kaffebueno

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